

*Fast Facts*

De-risking Strategies of Defined Benefit Plans: Empirical Evidence from the United States

SUMMARY

Pension plan risk is among top concerns for many organizations as they experience continued growth of their defined benefit (DB) plan obligations. As a result, pension plan de-risking strategies have been an area of focus for actuaries, investors, analysts and other plan stakeholders.

The research team investigated a wide range of pension de-risking strategies and presented empirical evidence from US markets for 1994-2014. The de-risking strategies evaluated include shifts (from defined benefit to defined contribution plans), freezes, terminations, buyouts, buy-ins, longevity hedge and liability-driven investment (LDI).

This report represents what is thought to be the first such study to explore U.S. de-risking activities with a relatively complete set of empirical data.

HIGHLIGHTS

- The researchers created a database of U.S. de-risking transactions for the period 1994-2014 using the Electronic Data Gathering, Analysis and Retrieval (EDGAR) system and firm-level financial data from Compustat.
- To build the database and identify the individual de-risking transactions, the researchers used several data techniques including web crawling, text mining, machine learning and manual judgement.
- Firms that are more likely to de-risk their defined benefit plans tend to have low profitability, poor pension funding status, high pension asset beta (the weighted average beta of a plan's pension assets), or high earnings/stock volatility.
- De-risking increases long-term shareholder value and reduces net pension beta (the difference between pension asset beta and pension liability beta).
- Economic downturns and lower interest rates are driving factors of pension de-risking.
- Detailed descriptions and environmental history of each de-risking strategy are included to help readers understand how they differ and the magnitude of their risk impact.

LINK TO REPORT

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<https://www.soa.org/globalassets/assets/files/resources/research-report/2020/de-risking-strategies.pdf>

METHODOLOGY

- Published: November 2020
- This study fills a gap of DB pension de-risking literature by providing empirical evidence from the U.S. market. This was accomplished by building a U.S. pension de-risking database using techniques such as web crawling, text mining, machine learning and manual judgment.
- The report is divided into three major sections: Background and Existing Studies; Data Description; and Hypotheses and Empirical Results.

REPORT SPECS

- Published: November 2020
- Pages: 48
- Access: Downloadable pdf
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